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ORIGINAL ARTICLES.

THE THERAPEUTIC ACTION OF THE NATURAL MINERAL SPRINGS OF CRESSON UPON THE MUCOUS MEMBRANE OF THE NOSE AND THROAT.

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Read in Section of Ophthalmology, Otology and Laryngology of the American Medical Association, May, 1884.

During a short sojourn at Cresson Springs, last summer, I became acquainted with the mineral springs of the place; and having observed their therapeutic value on some persons staying there, I resolved to give the matter a thorough test. It was an easy matter to obtain a sufficient quantity of the waters for trial during the winter, and the following remarks will give a *resumé* of the results of numerous trials as well as a few hints as to the proper use of mineral waters in general.

The following analyses of the iron, alum and magnesia springs at Cresson, were made by Professor F. A. Genth, of the University of Pennsylvania, for the State Geological Survey, in 1875.

One gallon of 231 cubic inches contains:

	Iron Spring.	Alum Spring.
Sulphate of Ferric Oxide	= trace	33.38970 grains.
" Alumina	= 1.60466	21.20498 "
" Ferrous Oxide	= 23.47923	16.25273 "
" Magnesia	= 22.58007	27.69855 "
" Lime	= 48.91824	40.20179 "
" Lithia	= trace	0.04693 "
" Soda	= 1.64331	0.70398 "
" Potash	= 0.32495	0.42622 "
Chloride of Sodium	= 0.04063	0.02336 "
Bicarbonate of Iron	= 5.03471	3.74756 "
" Manganese	=	trace "
" Lime	= 3.52946	trace "
Phosphate of Lime	= 0.02914	1.86794 "
Silicic Acid	= 1.20832	
	108.39182	145.56374
		Magnesia Spring.
Sulphate of Lime	=	0.10912 grains.
Chloride of Magnesium	=	0.55962 "
" Calcium	=	1.30444 "
" Sodium	=	1.22974 "
Bicarbonate of Iron	=	0.01753 "
" Manganese	=	trace "
" Magnesia	=	0.41434 "
" Lime	=	0.02552 "
" Soda	=	1.42582 "
" Potash	=	0.20671 "
Phosphate of Lime	=	0.00408 "
Alumina	=	0.00876 "
Silicic Acid	=	0.91455 "
Nitrous Acid	=	trace "
Carbonic Acid (free)	=	0.66390 "
		6.88113 "

There are at Cresson three springs: One a very strong iron spring, which, according to the analyses made by the Pennsylvania State Survey, ranks with the best so-called steel springs of Europe; a ferruginous alum and a weak magnesia spring. These waters I used on a number of patients suffering from chronic catarrhal inflammation of the upper air passages, in the form of spray applied locally to the diseased mucous membrane and the iron and magnesia waters internally with proper regulation of the diet of the patients.

Thus I found that the ferric alum water had a decided tonic and stimulating effect in those cases of atrophic nasal catarrh, which were complicated with pharyngitis sicca and chronic laryngitis, and that the beneficial effect of the local applications was very soon apparent to the patient. In these cases selected for trial no other treatment was used, so that there should be no error possible in determining the therapeutic value of the application.

The iron water I found to have no very decided effect upon these cases, but to be of great value in cases of follicular pharyngitis and in the milder forms of hypertrophic nasal catarrh, as well as in cases of ordinary simple chronic laryngitis and bronchitis. The water is sufficiently alkaline to soften the secretions and to cleanse the mucous membrane.

The magnesia water locally applied gave no results whatever, and I very soon desisted in using it for topical applications, but found it a valuable adjuvant in the treatment of patients suffering from lythæmic inflammations of the mucous membranes of the upper air passages. In these cases the patient was directed to drink the water freely, and its slightly diuretic effect soon became apparent.

The iron spring also is somewhat diuretic in its action, but it is chiefly valuable as a tonic particularly in cases with feeble digestion.

The local applications were made in all these cases in the form of sprays, either with the hand atomizer or with the steam apparatus, and were not repeated oftener than once a day.

Artificially prepared solutions of iron and ferric alum which I used in a number of cases similar to those which were treated with the natural waters, did not have the same effect, and this fact strengthened my belief that it seems impossible to manufacture an artificial mineral water in the laboratory of the chemist which is equal in its value to that produced in Nature's laboratory.

Almost all the European authors on diseases of the lungs and upper air passages lay great stress upon the

value of the natural mineral waters in the treatment of these disorders, and advise their patients to go to one or the other of the many watering places on the continent. In America, on the other hand, although we have mineral springs of equal and even greater therapeutic value than are found in Europe, yet the medical profession at large does not seem to recognize the fact, and they are little patronized with the exception of a few, where, however, the waters form the least attractions, as for instance in Saratoga.

This may perhaps find an explanation in the fact that, in this country everything being free, the patients at these watering places are left to their own choice as to the quality and quantity of the water they are to drink, and are not in the least restricted as to their diet, which as a rule is either altogether insufficient in quality, or sumptuous beyond reason. In Europe, however, the effects of the different mineral springs are well known to every educated physician, and when he sends a case to a watering place it is not a random patient which perhaps he is anxious to get rid of for a time, but he selects that mineral spring which is most suitable for the disease from which the patient is suffering. At the springs there is also a physician appointed permanently by the company or State owning the ground, who has made a study of the therapeutic action of the mineral waters, and who directs every patient as to which of the waters, if there are more than one spring at the place, he is to drink or use, how much, and in what form, whether internally, by local applications, or in the form of baths, and finally gives careful directions as to diet and exercise compatible with the use of the mineral springs.

We cannot expect that change of air and the indiscriminate use of a mineral spring alone should produce these marvelous effects which we so often hear about as having been produced by this or that German spring unless we combine hygienic measures with our therapeutic agents. As soon as the medical profession and their patients realize this important fact, our valuable mineral springs will cease to be a mere pretext for our fashionable patients to spend a few weeks at a watering place, and will become what they ought to be to-day: valuable adjuncts in the treatment of most chronic diseases.

The mineral springs of Cresson, viewed from this standpoint, will, I have no doubt, soon be recognized as extremely valuable in the treatment of all catarrhal affections of the mucous membranes, which is enhanced by their situations and surroundings. They are located near the summit of the Alleghenies at an elevation of 2,300 feet above the level of the sea, and within a few miles of the celebrated Horse Shoe curve of the Pennsylvania railroad, thus affording a moderately high altitude with a moderately dry climate, one that is eminently suited for catarrhal diseases. The hotel accommodations are excellent and the place is free from many of the objectionable features of other more fashionable watering places, such as drinking saloons, gambling hells, race courses and the like, which aside from the bad moral effect must necessarily materially interfere with the needful

rest free from excitement, so necessary with treatment of most chronic diseases.

Unfortunately I was not able to test the virtue of Cresson waters in the form of baths, but when we compare the analysis with that of other springs similar in their chemical constituents we will find that also in that form they must be valuable in many of the disorders due to nervous debility which so frequently show themselves in inflammation and neuroses of the larynx and nasal cavities. As a matter of course, springs of this kind properly used will exert a beneficial effect upon catarrhal inflammations of other portions of the mucous membrane, but as my line of work lies in the direction of laryngology and rhinology, I could not well investigate the therapeutic action of these waters further than I did, namely, upon the mucous membrane of the upper air passages.

SOME REMARKS ON THE FEEDING OF SCHOOL CHILDREN.

BY LOUIS W. ATLEE, M.D., PHILADELPHIA.

Read in Section on the Diseases of Children of the American Medical Association, May, 1884.

From the beginning of all things the weak have been subservient to the strong, both mentally and physically. That the vigor of its people goes to make the greatness of a state is well illustrated in the history of the Roman people, who lost their supremacy in proportion as they destroyed their once famous physical abilities by sensuous indulgences.

It behooves us to see that this coming generation is endowed with the bodily vigor to fight successfully the never-ceasing battle of life; for upon our shoulders is thrown this responsibility.

The subject to which I wish to draw your attention is one that of late has been most thoroughly sifted in England, where a remedy for the evil has been happily suggested. Every actively engaged practitioner in a large city, must have been struck by the number of children brought to his office, whose pale thin faces, but bright eyes, are so characteristic of active minds and bodies insufficiently nourished.

The daily life of these little ones will be found to be much as follows: After a breakfast comprised at most of a very little bread with some tea or coffee, off they go to school to exercise their quickly developing brains till two o'clock, with perhaps an intermission of one half-hour. During this long period of six hours' strain on their mental and physical powers (being often required to stand up during recitation), very few take any nourishment to sustain them, and if they take any, it will be some miserable trifle, such as cake or fruit. Thus is the health of our children broken, and if attention is not soon given to their worn out appearance or complainings, they will either sink under some sickness that in health would have been safely passed over, or the foundation will be laid for an existence made miserable by many ills.